WHAT IS CLAIMED IS:

1. A method for profiling network flows at a measurement point within a computer network, the method comprising:

measuring network flows having invariant features at a measurement point located within routing infrastructure of the computer network to obtain flow statistics; and

aggregating the flow statistics to obtain a traffic profile of the network flows at the measurement point.

2. The method as claimed in claim 1 wherein the step of aggregating is based on at least one of the invariant features.

3. The method as claimed in claim 2 wherein the at least one invariant feature is either a source endpoint or a destination endpoint and wherein the step of aggregating is based on distance of the measurement point from the endpoint.

4. The method as claimed in claim 1 wherein the invariant features include source and destination endpoints.

5. The method as claimed in claim 4 further comprising identifying typical traffic source and destination pairs for network flows that transit the measurement point based on the source and destination endpoints.

6. The method as claimed in claim 4 wherein the invariant features include protocol type.

7. The method as claimed in claim 6 wherein the invariant features include port information.

8. The method as claimed in claim 1 wherein the step of aggregating is based on temporal, static network and dynamic routing parameters.

9. The method as claimed in claim 1 further comprising identifying desired network flow characteristics based on dynamic routing and topology information.

10. The method as claimed in claim 1 wherein the computer network is the Internet.

11. A system for profiling network flows at a measurement point within a computer network, the system comprising:

means for measuring network flows having invariant features at a measurement point located within routing infrastructure of the computer network to obtain flow statistics; and

means for aggregating the flow statistics to obtain a traffic profile of the network flows at the measurement point.

12. The system as claimed in claim 11 wherein the flow statistics are aggregated based on at least one of the invariant features.

13. The system as claimed in claim 12 wherein the at least one invariant feature is either a source endpoint or a destination endpoint and wherein the flow statistics are aggregated based on distance of the measurement point from the endpoint.

14. The system as claimed in claim 11 wherein the invariant features include source and destination endpoints.

15. The system as claimed in claim 14 further comprising means for identifying typical traffic source and destination pairs for network flows that transit the measurement point based on the source and destination endpoints.

16. The system as claimed in claim 14 wherein the invariant features include protocol type.

17. The system as claimed in claim 16 wherein the invariant features include port information.

18. The system as claimed in claim 11 wherein the flow statistics are aggregated based on temporal, static network and dynamic routing parameters.

19. The system as claimed in claim 11 further comprising means for identifying desired network flow characteristics based on dynamic routing and topology information.

20. The system as claimed in claim 11 wherein the computer network is the Internet.

21. The method as claimed in claim 3 wherein level of route aggregation is a measure of the distance.

22. The method as claimed in claim 3 further comprising utilizing physical and logical router interfaces at a highest level of aggregation.

23. The method as claimed in claim 3 wherein the distance is a logical distance with respect to forwarding topology.

24. The system as claimed in claim 11 wherein the system is capable of adapting to system resources in a dynamic fashion by reassignment of system resources to deal with possible aggregation levels.